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The Antecedents of QRIS Application Acceptance among Merchants for Payment in Indonesia

Anna Isabella Lau[1], Hepy Hefri Ariyanto[2], and Hanini Ilyana Che Hashim[3]

[1, 2]Department of Master of Management, Faculty Business and Management, Universitas Internasional Batam, [3]Department of Accounting and Finance, Faculty of Management, Universiti Teknologi Malaysia, 81310 Johor Bahru, Johor, Malaysia

Corresponding Author Email: hepy@uib.ac.id

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Abstract

In the modern era, technological developments have contributed to the formation of the concept of a cashless society. Quick Response Code Indonesian Standard payment (QRIS) is used explicitly in Indonesia as the newest innovation in the field of mobile payments, and merchants in various industries widely use it. However, even though statistically, Indonesia did complete its yearly goals of increasing cashless users compared to other developing countries, it still needed to manage to push to its limits. Therefore, this study investigates the factors that motivate merchants to accept QRIS payments through the extended mobile technology acceptance model. This study's quantitative data analysis method is obtained by distributing Google Forms questionnaires. The Final study sample consisted of a total of 291 data. The technique used in this research is non-probability sampling. This technique uses convenience sampling, which collects market research data from several available respondents, namely the micro-merchants that use the QRIS payment application in Batam City. The collected data used is partial least squares for analysis. Based on the test results, it can be concluded that mobile ease of use, usefulness, and perceived cost are crucial aspects that significantly positively affect the intention to use QRIS payment.

Keywords: Cashless Society, Mobile Payment, QRIS, MTAM, MSMEs, Culinary Merchants

Introduction

A cashless society is one in which people regularly use non-cash payment methods, particularly for transactions involving their economic activities. (Capgemini, 2018, 2019) Cashless payments can also increase a nation's annual GDP by up to 3%. Countries are eager to replace cash to satisfy the G20 countries' financial inclusion targets, modernise global economic systems, and reduce fraud and currency-related crime. The cashless payment system entails a shift in people's behaviour to enable digital payment rather than actual cash

(Kumari and Khanna, 2017). There are four main classifications of digital payment technology: card payment, e-payment, mobile payment, and cryptocurrencies (Khando et al., 2023).

In the first quarter of 2022, the Central Bank (Bank Indonesia) stated that the value of electronic money transactions was expected to reach IDR 49,733.8 trillion. Meanwhile, beyond expectation, the value of electronic money transactions increased by 28.72% compared to 2021 to IDR 52,545.8 trillion (Bank Indonesia, 2022). During 2022, the most electronic money transactions were from mobile banking (71%), followed by internet banking (28,98%), and tiny transactions through phone banking (0.01%) as ASPI (Indonesian Payment System Association) reported that cash usage remains high (84%) in Indonesia. Cash usage in the last two years is 87% and 84%. On the other hand, (Buchholz, 2023) surveys have shown that developed countries such as Germany, the United States, and Denmark seem to be fond of credit or debit cards. Still, most Asia developing countries such as Indonesia and India rely more on mobile device payments and cash usage, with 84% and 62%, respectively. As a result, statistics show that Indonesia's cashless society still needs to catch up.

QRIS (Quick Response Code Indonesian Standard) is a national QR Code created by Bank Indonesia and formally launched on January 1, 2020. By incorporating the QR code, the availability of QRIS is anticipated to make transactions more helpful, easy to use, and secure. Additionally, QRIS is mobile banking that the government of Indonesia supported and required to improve the interconnection of the digital ecosystem, which includes e-commerce, fin-tech, and banks (Bank Indonesia, 2019), as well as to increase the adoption of national non-cash payments. As the number of users of the cashless system increases, so does the number of merchants who use it (Au & Kauffman, 2008). However, there are still specific difficulties and barriers to implementing QRIS. Based on research by (Liébana-Cabanillas et al., 2020) and (Balakrishnan & Shuib, 2021), they revealed that in most research, the issue of lack of awareness impacts users using mobile payments. Nonetheless, as of July 1, 2022, the number of QRIS merchants within the Riau Islands come to 394,632. In fact, 90% of QRIS merchants are businesses located in Batam City, totalling up to 355,053 merchants. This indicated that the micro business category dominates 63% of all QRIS merchants in the Riau Islands. (Posmetro.co,2022) This statement proves that most Batam City micro businesses know QRIS payment. Looking out of the lack of awareness, in UMKM PP Number 7 of 2021, the government categorises additional enterprises as micro-businesses to intensify attention on enabling micro-businesses to advance to a higher level. However, (Lestari, 2023) note that the progress of digitalising payments for micro businesses appears to be hindered. The financial services sector acknowledges micro merchants' concerns over the 0.7% Merchant Discount Rate (MDR) fee applied to QRIS transactions (Wiratmini, 2020). Bank Indonesia views the transaction fee of 0.7% as affordable, while Akumindo, the Association of Indonesian MSMEs, calls for free QRIS transactions. In response to the request, Bank Indonesia, following the BI Governor's Board Meeting results for December 2022, extended the 0% MDR rate until June 30, 2023, for regular micro-business transactions (Suheriadi, 2022), this move has boosted micro merchants' interest in using QRIS as a payment method. Commencing July 1, 2023, Micro-enterprises will incur a 0.3% charge for transactions exceeding IDR 100 thousand, while transactions below IDR 100 thousand will continue to have no MDR fee. With the recent revision in the MDR fee, research from (Nabilah & Sultan, 2023) that has been carried out by implementing the MDR QRIS of 0.3%, some merchants still have complaints about the predetermined percentage.

Several research papers on adopting information technology services (Lin Chen-yang & Xu Ni, 2021) established that the Technology Acceptance Model TAM is these studies' most used foundation theory. They were initially constructed to explain the factors that affect an individual's adoption of electronic mail systems in an organisational setting (Davis, 1989). Another popular model used to measure intention to use or adopt digital payment services is the UTAUT Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003). UTAUT was advocated by (Venkatesh et al., 2003) and put forward four core constructs that are direct determinants of intention and usage behaviour. (Venkatesh et al., 2012). However, it was criticised that the model is based on organisational contexts and developed primarily based on technology acceptance among employees. Technology adoption outside the workplace differs in several dimensions, such as differences in types of tasks and complexity of interactions (Brown et al., 2006). The models, however, are not without limitations (Ooi & Tan, 2016).

Mobile Technology Acceptance Model (MTAM), on the other hand, Previous studies have referred to both MTAM and extended MTAM specifically tailored to the mobile environment, which has yet to be fully modelled in existing IT/IS research. It adopts the model developed by (Ooi & Tan, 2016) with Malaysian respondents. Still, it needs to be further validated with respondents from other countries, such as Indonesia, because there are still differences between them (Ooi & Tan, 2016b). The extended MTAM was advocated by several researchers (Benbasat & Barki, 2007; Phan et al., 2011), who suggested including more variables to illustrate the adoption of innovative technology, in particular mobile services (Ooi & Tan, 2016).

Given the facts that even after Indonesia has been improving into a cashless society, a high percentage of mobile payments with increased merchants utilising QRIS. However, compared to the global, it still needs to catch up. On the other hand, an emerging new issue is "if MSMEs are slow in adoption QRIS payment due to the concern of cost implemented while using QRIS".

The researcher adopted the extended MTAM from (Ooi & Tan, 2016) to answer these questions. The model was re-validated in Indonesia. This study's novelty is using MTAM, Mobile Usefulness and Mobile Ease of Use with an Extended variable, Perceived Cost, to test the relationship toward QRIS Intention of Use of Merchants. The rest of this article is as follows. The next section presents a relevant discussion of the theoretical framework of technology adoption and the hypotheses guiding the research. Next, this article describes the methods used to conduct the study. The results of the data analysis are described and followed by further discussion. The article concludes by discussing the theoretical and practical implications of the findings and limitations of the study. It illustrates researchers' intention to further improve micro-business merchants' behavioural intention, particularly in Batam City.

Literature Review

Small and Medium Enterprises (SMEs) in Indonesia

A micro, small, and medium-sized enterprise (MSME) is owned or operated by individuals and business entities. According to data from Bank Indonesia, the number of micro, small, and medium businesses is stated. Currently, Indonesia has 64.2 million MSMEs, of which 63.35

million are micro business units, 783 thousand are small businesses, and 60,702 are medium-sized businesses. Nonetheless, only 4.3 million MSMEs have implemented digital payment systems utilising the QRIS.

Government Regulation Number 7 of 2021 divides MSMEs in Indonesia into three groups: micro, small, and medium-sized. Meanwhile, PMK claims that MSMEs are divided into two categories under No. 197/PMK.03/2013: Taxable Entrepreneurs (PKP) and Non-Taxable Entrepreneurs (Non-PKP). PKP is defined as a business that has a 4.8-billion-dollar turnover. Conversely, non-PKP businesses have turnovers of under 4.8 billion in annual revenue, which is the requirement for MSMEs listed (Indonesian Government, 2021).

Table 1
Type of SME in Indonesia

Type of SME based on PP No. 7/2021	Criteria	Amount	Type of SME based on PMK No.197/PMK.03/ 2013
Micro	Net Worth Sales	≤ IDR 1 billion	Non-Taxable Entrepreneurs
Small	Net Worth Annual Sales	IDR 1 billion < x ≤ IDR 5 billion IDR 2 billion < x ≤ IDR 15 billion	Taxable Entrepreneurs
Medium	Net Worth Annual Sales	IDR 5 milliard < x ≤ IDR 10 milliard IDR 15 milliard < x ≤ IDR 50 milliard	

Sources: Indonesian Government (2021)

According to Oktavian and Rumaisa (2022), MSMEs in Indonesia have experienced a stagnant condition for the last ten years, with approximately 98.7% dominated by micro businesses. Since the previous ten years, approximately 98.7% have been dominated by micro businesses. Based on this data, most MSMEs in Indonesia are still classified as micro or non-MSMEs.

Underpinning Theory

The Technology Acceptance Model (TAM), which (Davis, 1989) further refined and modified from the TRA framework, holds that a person's acceptance of a technology is determined by their voluntary intention to utilise it. Perceived utility (PU), the subjective belief of users that an application system can increase their performance, is the primary variable in TAM (Davis, 1989). Perceived ease of use, or PEU, is the second factor and is described as the user's expectation that using the system will be effortless (Davis, 1989). Numerous research on mobile payments has used TAM theory, including (Lai, 2017 Liébana-Cabanillas et al., 2015) (Ooi & Tan, 2016) discovered limitations in earlier theoretical models to assess the acceptability of mobile technology together with the advancement of technology. As a result, (Davis, 1989) modified the TAM, and (Ooi & Tan 2016) created the Mobile Technology Acceptance Model (MTAM). Because there are differences between electronic and mobile technology, users are likely to exhibit various reactions; the primary goal of designing MTAM is to adapt to the context of mobile technology (Alamoudi, 2021).

Due to TAM's drawbacks, MTAM was created, characterised by two fundamental factors: mobile usefulness (MU) and mobile ease of use (MEOU). MTAM is also trusted to examine the usage of mobile payment technology, such as QRIS, because applying these two fundamental variables is more appropriate for describing the context of using mobile technology (Tew et al., 2022; Yan et al., 2021). To examine the intention to utilise QRIS in Indonesia, this study will apply MTAM.

Intention of Use

The significant QRIS merchant user base among MSMEs in Batam City indicates a strong preference for QRIS. This tendency or Behavioural Intention is an individual's urge, wish, or intention to carry out actions (Simeru & Tanamal, 2020). According to Davis (1989), the purpose is the assessment of how willing a person is to carry out a specific behaviour. The desire to utilise QRIS is defined as a person's willingness to use QRIS service for payment reasons. From this point of view, MSMEs aim to utilise QRIS as a digital payment option in their businesses. (Nurhapsari & Sholihah, 2022) Multiple signs of intention to use comprise the wish to use, the ongoing attempt to use, and the intention to keep using in the future.

Relationship between Mobile Usefulness and Intention to Use

The usage of QRIS codes by an individual to enhance their performance and offer advantages during transactions is measured by mobile usefulness (Chuttur, 2009; Dawi Norazryana Mat, 2019; Venkatesh et al., 2003; Yan et al., 2021). Merchants must recognise the value of QRIS in digital payment activities. The benefits outlined by Bank Indonesia for QRIS must be able to influence merchants to implement. The usefulness of QRIS code payments themselves has been demonstrated to be significantly influential in bringing up the intention of the behaviour (de Luna et al., 2019; Ibrahim et al., 2019; C. Kim et al., 2010; Liébana-Cabanillas et al., 2015; Oliveira et al., 2016; Sosyal & Dergisi, 2016; Yan et al., 2021), where the research was conducted to consumers or the other sector. Furthermore, according to (Setiyono, 2021), QRIS codes are excellent for digital payments since they make transactions straightforward and efficient. Through numerous investigations from various nations and areas in Indonesia (Abebe & Lessa, 2020; Theodora et al., 2019; Tiara Imani & Herlanto Anggono, 2020), the usefulness of QRIS codes has also been demonstrated to be substantially influenced by merchants. There is also a qualitative study that shows the value of QRIS codes for businesses to use (Bisnis et al., 2020; Moghavvemi et al., 2021; Setiawan I Wayan Arta & Mahyuni Luh putu, 2020). Therefore, we may agree that QRIS can boost efficiency and encourage more businesses to use QRIS code for digital payments. Based on earlier research, we can also agree that it is still unclear whether the retailers can accept this payment option due to QRIS's ease of use and quick transactions; consequently, more research is required for greater digital penetration. So, a hypothesis can be developed.

H_1 : Mobile Usefulness will positively influence the Intention to use QRIS.

Relationship between Mobile Ease of Use and Intention to Use

The usage of QRIS codes by an individual to enhance their performance and offer advantages during transactions is measured by mobile usefulness (Chuttur, 2009; Dawi Norazryana Mat, 2019; Venkatesh et al., 2003; Yan et al., 2021). Merchants must recognise the value of QRIS in digital payment activities. The benefits outlined by Bank Indonesia for QRIS must be able to influence merchants to implement. The usefulness of QRIS code payments themselves has been demonstrated to be significantly influential in bringing up the intention of the behaviour

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H_2 : Mobile Usefulness will positively influence the Intention to use QRIS.

Relationship between Perceived Cost and Intention to Use

Perceived cost represents the interpretation of the actual market value of a product or service. Typically, users do not know the exact or approximate production costs or the factors affecting product/service pricing, as well as the actual or estimated production costs (Hayashi & Bradford, 2014; H. W. Kim et al., 2007) offer a merchant's view on perceived cost stating that perceived cost is the second most significant factor influencing intention to use mobile payment. For many merchants, especially those with tight profit margins, mobile payments are a chance to manage payment processing costs more effectively. Likewise, (Abebe & Lessa, 2020) also mentioned that merchants find QRIS as one mobile payment advantageous because it offers economic benefits, lower costs, reduced inconvenience, and time and effort savings, leading to its intention to use merchants. Merchants believe that the benefits of QRIS, such as only showing one QR code without handling transaction challenges, avoiding concerns about change, enabling employees to concentrate on their work, products, and services, reducing waiting times, serving as a marketing tool, and boosting financial gains, are advantages that stand out when compared to other payment methods. The findings of this research also support the study conducted (Abebe & Lessa, 2020) on the Relative Advantage of digital payment adoption. However, their examination focused on digital payments did not adequately address the QR component. This indicates that the merchant perspective favors integrated QR payment over conventional QR payment or other digital payment methods.

H_3 : Perceived Cost has a direct positive effect on the Intention to use QRIS.

Research Methodology

The respondents in this research are merchants of food courts in Batam City. The population of the food courts in Batam City was stated to be 1041 in the year 2022 (Satudata, 2023). Thus, using the Slovin formulation, the sample size was expected to be 288, but if any unreturned respondents increased to 304. Later, 13 extreme outliers were deleted. Hence, 291 respondents were left for data analysis. The technique used in this research is non-probability sampling. This technique uses convenience sampling, which collects market research data from several available respondents. Specific criteria will be used, namely no bias or ambiguity, that is, respondents have clear boundaries, and there are not many representative samples, responses must represent the characteristics of the sample

population, and the resulting data must be the same (Nikolopoulou et al., 2021). The questionnaires were then distributed from October 2023 to November 2023.

Data was collected using Google Forms. Questionnaires were separated into four parts. The first part consists of 10 questions intending to gather an individual's demographic background. In the second part, research questions are constructed from 3 variables: (Independent) Mobile Ease of Use Mobile Ease of Use, Perceived Cost and (Dependent) Intention to Use. There are 13 questions (Table 1) to measure the level of agreement of food court merchants using QRIS in Batam City. All the variables were measured using a 5-point Likert scale starting from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 1
Table of Measurement Items

Operationalizations of Variables	**Number of items**	**Adapted from**
Mobile Usefulness	3 items	(Lew et al., 2020)
Mobile Ease of Use	3 items	(Lew et al., 2020)
Perceived Cost	4 items	
Use of Intention	4 items	(Singth & Sinha, 2020)

Source: Author

Most business actors (merchants) are dominated by the female gender at a young age. The active selling ages range from 20-54 years old. In recent years, Batam City has opened more food courts, giving more alternative options for tourists and locals. The culinary aspect also varies; in this study, it is dominated by food stalls, with a percentage of 73.2%. Research location differs in several city areas in Batam City, such as *Lubuk Baja* (63.2%), *Batu Ampar* (25.8%), as well as many remote areas, such as *Batu Aji* (10%). The Result shows that most of the food court merchants' operational period is mostly 2-5 years with a percentage of 43.6%. With the offered use of electronic money transactions using QRIS in 2020, out of the 291 respondents, 97.3% of the merchants already use QRIS payment, and only about 3.1% of merchants have not used QRIS because the online system is too complicated for some merchants to understand as cash is more accessible. In contrast, most of the merchants who have used QRIS since 2020 mentioned that using QRIS transactions has become more accessible, fast and efficient; the average use of QRIS is more than 12 months with a frequency of use above 16 times, and they are willing to follow the trend of using electronic money in transactions.

Table 2
Demographic Profile of Respondents

Characteristics	Frequency	Percentage (%)	Characteristics	Frequency	Percentage (%)
Gender			**Usage of QRIS (Staring Year)**		
Male	138	47.4%	2020	40	13.7%
Female	153	52.6%	2021	58	19.9%
			2022	95	32.6%
			2023	98	33.7%
Age			**Reason of Usage**		
20-24 years old	50	17.2%	Easy to Use	68	23.4%
25-29 years old	45	15.5%	Fast and Efficient	60	20.6%
30-34 years old	54	18.6%	Following Market Trends	118	40.5%
35-39 years old	55	18.9%	Bank Recommendation	26	8.9%
40-44 years old	51	17.5%	Customer Recommendation	3	1.0%
45-49 years old	23	7.9%	Lack of Understanding	8	2.7%
50-54 years old	13	4.5%	Never Fill in Reason	8	2.7%
55-59 years old	0	0.0%			
>60 years old	0	0.0%			
Type of Business			**Usage Period (How Long)**		
Food	213	73.2%	Never	9	3.1%
Drinks	53	18.2%	1-3 month	12	4.1%
Snack	25	8.6%	3-6 month	8	2.7%
			6-12 month	35	12.0%
			>12 month	227	78.0%
Business Period			**Frequency of QRIS usage (Per Month)**		
< 2 Years	115	39.5%	Never	9	3.1%
2-5 Years	127	43.6%	1-5 time	16	5.5%
>5 Years	49	16.8%	6-10 times	29	10.0%
			11-15 times	8	2.7%
			>16 times	229	78.7%
Food Court Location					
Food Court Nagoya	58	19.9%			
Food Court A2	45	15.5%			
Food Court Thamrin	81	27.8%			
Food Court 168	75	25.8%			
Food Court Indorasa	29	10.0%			
Others	3	1.0%			

Results and Discussions

Reliability and Validity

The Convergent Validity Test proves that each indicator or question is acceptable and can explain the independent variable. According to Hair et al. (2020), a loading factor value of more than 0.5 (0.722 to 0.915) has strong enough validation.

Additional reliability and validity measures are provided in Table 2, which are comprised of loading factors, composite reliability, Cronbach's Alpha, and average variance extracted (AVE). Cronbach's Alpha addresses whether the indicator for latent variables displays convergent validity and hence displays reliability. Table 2 shows that the computed alpha values ranged from 0.728 to 0.872, which is more significant than 0.7 overall, thus demonstrating a high reliability of data. (Nunnally, 1978). Similarly, all the CR values are more substantial than 0.7, Ranging from 0.883 to 0.903, reflecting that all measures are reliable. Finally, the AVE value of each factor is > 0.5 (0.642 to 0.821), further explaining the validity of the factors.

Table 3
Construct Reliability

Factors	**λ**	**Cr**	**Ca**	**AVE**	**Factors**	**λ**	**Cr**	**Ca**	**AVE**
Mobile Usefulness					**Perceived Cost**				
MEU1	0.831	0.882	0.799	0.714	*PC1*	0.797	0.890	0.836	0.668
MEU2	0.836				*PC2*	0.834			
MEU3	0.867				*PC3*	0.835			
Mobile Ease of Use					PC4	0.804			
MU1	0.846	0.889	0.812	0.727	**Intention to use**				
MU2	0.863				*ITU1*	0.854	0.912	0.872	0.722
MU3	0.849				*ITU2*	0.853			
					ITU3	0.848			
					ITU4	0.843			

Notes: Outer loading (λ), composite reliability, Cronbach's Alpha and average variance extracted (AVE)
Source: Authors

Finally, Table 3, Fornell- Larcker Criterion was used to ensure discriminant validity (Fornel & Larcker, 1981). According to the criterion, no indicator variable should correlate more with another latent variable than its latent variable (Table 3). if it does, the model is inappropriately specified. In that case, all correlations are deemed fit.

Table 4
Fornell- Larcker Criterion

Factors	MEU	MU	PC	UOI
MEU	0.845			
MU	0.516	0.853		
PC	0.579	0.651	0.651	0.594
ITU	-0.223	0.73	0.628	0.612

Note MU: Mobile Usefulness MEU: Mobile Ease of use PC: Perceived Cost UOI: Use of Intention

Structural Equation Modelling

The results of the analysis of the significance and relevance of the structural relationships of the model with a non-parametric bootstrap procedure with 1,000 sub-samples of observations revealed that 5 of the six structural relationships presented in the model are significant (Nadinta & Kusumawati, 2023) stated that to analyse how independent and dependent variables interact. The P-value or T-Statical should be more important than 1.96 or less than 0.05.

Table 5
Hypothesis Result

Hypothesis Relationship	Original Sample (O)	Mean	Sig.	t-statistics
MEU → UOI	0.148	0.146	0.002	3.143
MU → UOI	0.251	0.253	0.000	3.860
PC → UOI	0.463	0.465	0.000	7.356

Source: (Author, 2024)

Mobile Ease of Use Influence Use of intention

Mobile ease of use is a variable that measures the extent to which respondents feel that using QRIS through the mobile banking application is easy to do. According to studies by (Theodora et al., 2019), the merchant himself did not significantly affect QRIS usage. However, (Abebe & Lessa, 2020) indicated that the intention of merchants to use QRIS for payments is influenced considerably by ease of use. On the other hand, (Nurhapsari & Sholihah, 2022) stated that MSMEs are more likely to use QRIS because they view it as a technology that is easy to use, simple to control, and not overly complicated. The ease of learning to use QRIS is the leading indicator that drives its use, making it very simple for traders to gain proficiency with the system. Consequently, MSMEs believe utilising QRIS rather than cash will simplify payment transactions.

The results in Table 4 showed that mobile ease of use has a significant relationship to use of intention as T-statistics is 3.143 > 1.96 and a P value of 0.002 <0.05, which transactions that the easier it is to use QRIS through the mobile banking application, the higher or more intention for merchants to use QRIS as the mobile banking application for business transactions. Hence, Hypothesis 1 has been proven significantly positively accepted.

Mobile Usefulness Influence Use of intention

Mobile usefulness of applications with the intention to use QRIS shows a significant value seen from the T-statistical value of 3.860 > 1.96 or a p-value of 0.000 <0.05 (Nurhapsari & Sholihah, 2022) stated that Mobile usefulness is an essential factor affecting MSMEs' intention to use QRIS because merchants believe the benefits of utilising QRIS as meeting the requirements for its usefulness in facilitating the fulfilment of transactions involving buying and selling, MSMEs are thus interested in using it. Merchants also understand that QRIS can facilitate speedy payment transaction completion, enhance productivity and sales performance, and develop into a suitable substitute payment method for cashless transactions as they become less frequent. Similarly, research related to mobile payments (Altwairesh & Aloud, 2021) also mentions that the usefulness of technology has a significant influence on merchants using mobile payments. Micro-business actors are also starting to see

mobile payment technology as a practical alternative to payment. The usability impact that offers micro-business actors' practicality and the support from Indonesia's digitalisation program can increase their intention to use QRIS. Therefore, Hypothesis 2 has been proven significantly positively accepted.

Perceived Cost Influence Intention to Use

The relationship between perceived cost and intention to use QRIS shows a significant value from the T-statistical value of 7.356 > 1.96 or a p-value of 0.000 <0.05. Low costs will encourage MSMEs to adopt the technology, according to prior research on mobile money services in Zimbabwe (Masocha, 2018). The low indicator of transaction fees for new technology users will increase the intention to use QRIS. The merchant discount rate (MDR) and transaction disbursement fees associated with using QRIS in Indonesia have the potential to lower daily income. This finding is consistent with the studies (Listiawati & Vidyasari, 2022) on culinary MSMEs in Depok City, Indonesia. Research showed that the efficiency level increased from 22% to 51% after implementing QRIS. Many MSMEs expressed a high willingness to use QRIS due to its effectiveness in enhancing digital payment services. Despite some extra fees like MDR, they find QRIS to be time saving, convenient, and cost-effective.

Conclusions

This study was conducted to examine the factors that are determinants of intention to use (IOU) QRIS payments. The structural model applies an Extended Mobile Technology Acceptance Model (MTAM) with factors including mobile usefulness (MU), mobile ease of use (MEU) and perceived cost (PC). The reliability test results conclude that MU, MEOU and PC have a significant positive effect on QRIS payment IOU. Based on the test results, the conclusion is that all proposed hypotheses are accepted from the test results. It can be concluded that the crucial aspects that influence the intention to use QRIS payments are, firstly, the MU of QRIS payments. Merchants understand that QRIS is a useful payment application that can facilitate speedy payment transaction completion, enhance productivity and sales performance, and develop into a suitable substitute payment method for cashless transactions as it becomes less frequent. Secondly, MEU of QRIS payment. Technology that is easy to use, simple to control, and not overly complicated is encouraging merchants to use it—finally, the PC of the QRIS Payment. Most of the MSME culinary merchants in Batam City think that the QRIS is relatively affordable and that the QRIS Application is easy to connect. Hence, it reduces its staff training costs.

This study has several limitations that need to be considered in future research. One of the limitations of this study is that the research was only conducted in Batam, Indonesia. Therefore, it is possible that the data and test results obtained still need to be more accurate to represent the QRIS payment intentions of merchants in Indonesia. Even if Batam is part of Indonesia, Indonesia is a vast country with diversity and differences in terms of ethnicity, lifestyle, economy, culture, and others.

Lastly, this study only examines the micro merchants that use QRIS payments in the food court industry. This causes the accuracy of the survey results to be unlikely to represent other types of mobile payments due to differences in features, and the test results are also likely to be less appropriate in different industrial sectors.

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